one, of copying disk drive units are initialized without errors and in a ready state.

There is a possibility that the number of copying disks that are processed at a time becomes small and thus the efficiency of the copying process becomes very low.

To solve the above problems, as described in detail below, there is provided a third embodiment of an information recording and reproducing apparatus capable of preventing undesirable starting of a copying process when only a small number of copying media have been initialized successfully, and also capable of starting a copying process without an unnecessarily long waiting time, thereby achieving high reliability and high efficiency in the copying process.

Whereas some of the capabilities of the third embodiment of the information recording and reproducing apparatus are different from those of the second embodiment, there is no difference in the hardware configuration. Therefore, a detailed description of the hardware configuration is not repeated here.

FIG. **13** is a functional block diagram of the CPU **55** according to the third embodiment, illustrating only main blocks.

According to the third embodiment, the CPU **55** essentially consists of: minimum copying-media number setting means **35** including a ROM for storing data representing a minimum number of copying disks; means **36** for checking the number of media that have been initialized successfully without errors and which are now ready for a copying process; medium number comparison means **37** including a comparator for comparing the number of copying disks ready for a copying operation with the minimum number set in the minimum copying-media number setting means **35**, wherein the number of copying disks ready for a copying process is given by the above-described means **36** for checking the number of media ready for a copying process; and copying process starting means **38** for starting a copying process only when the medium number comparison means **37** has concluded that the number of copying disks ready for a copying process is greater than the minimum number.

The CPU **55** operates as follows: A minimum limiting number of copying disks is stored in the ROM serving as the minimum copying-media number setting means **35**. Via the means **36** for checking the number of media ready for a copying process, the CPU **55** receives a signal from each drive control unit **52** indicating whether or not the disk drive unit has performed the initialization process successfully without errors. The CPU **55** determines the number of disk drive units which have performed the initialization process successfully without errors and which are now in a "ready" state. The medium number comparison means **37** compares the number of copying disks ready for a copying operation with the minimum limiting number that has been set in advance in the minimum copying-media number setting means **35**, wherein the number of copying disks ready for a copying process is given by the above-described means **36** for checking the number of media ready for a copying process. The copying process starting means **38** starts a copying process only when the medium number comparison means **37** has concluded that the number of copying disks ready for a copying process is greater than the minimum limiting number.

According to the third embodiment of the invention, the information recording and reproducing apparatus copies data from a master disk to a plurality of copying disks at a time as described below. First, the process performed before starting a copying process is described referring to the flow chart shown in FIG. **14**.

In the first step **S51**, a user inserts a desired number of copying disks into copying disk drive units **51***b* and **51***c* thereby mounting the disks therein. In step **S52**, the CPU **55** detects whether disks are mounted in the copying disk drive units **51***b* and **51***c*. If no disks are found in any disk drive unit, then the process returns to step **S51** and waits until a disk is mounted. If a disk is found to be present in some disk drive unit when the power is turned on, the disk is ejected from the disk drive unit.

If it is concluded in step **S52** that copying disks have been inserted into the disk drive units **51***b* and **51***c*, then the process proceeds to step **S53** in which the disk drive units perform an initialization process. In the initialization process, spindle motors **61** are started. The rotation speeds of the spindle motors **61** are increased to a predetermined constant value and then maintained at that value. The optical power of a semiconductor laser of each optical head **62** is adjusted to a proper value. Control associated with the optical heads **62** (seek control, focus control, tracking control, etc.) is performed, and the types of the media are identified from the information detected from control tracks of the copying disks. The above initialization process is performed under the control of the drive controllers **60** corresponding to the respective disk drive units as in the case of the second embodiment. After the completion of the initialization process, the CPU **55** makes the copying disk drive units **51***b*, **51***c*, . . . wait for subsequent operations.

In step **S54**, the CPU **55** determines the number of copying disk drive units that are in a ready state. In step **S55**, the number of copying disk drive units that are in the ready state is compared with the minimum limiting number set in the minimum copying-media number setting means. If the number of copying disk drive units that are in the ready state is greater than the minimum limiting number, then the process proceeds to step **S58**. In the opposite case, the process proceeds to step **S56**.

In step **S56**, a warning is displayed on the display/operation panel **59** so that the user can know that some copying disk drive unit has an error. In step **S57**, a copying disk having an error is ejected, and then the process returns to step **S51** in which the process waits until the user inserts another copying disk.

If it is concluded in step **S55** that the number of copying disk drive units that are in a ready state is greater than the minimum limiting number, then in step **S58** the user inserts a master disk into the master disk drive unit **51***a* thereby mounting the master disk therein.

In step **S59**, the CPU **55** detects whether a master disk is mounted in the master disk drive unit **51***a*. If no master disk is found in the master disk drive unit **51***a*, then the process returns to step **S58** to wait until a master disk is mounted. If it is concluded in step **S59** that a master disk is mounted in the master disk drive unit **51***a*, then the process proceeds to step **S60** in which the master disk drive unit **51***a* performs an initialization process.

The initialization process is performed under the control of the drive controller **60** for the master disk drive unit **51***a* in such a manner described below. After detecting that the master disk has been loaded successfully, processing, such as motor control processing, is performed in the same manner as in the case of the copying disk drive units. Then, medium information is derived from an SFP detected from the control track of the master disk, and thus the specifications such as the storage capacity of the master disk are identified. After the completion of the initialization process of the master disk drive unit **51***a*, the drive controllers **60**